Lat 39,55686 Lon -120.35568

United States Department of Agriculture
Forest Service
Lassen National Forest
2550 Riverside Drive
Susanville, CA 96130
(530) 257-2151 Voice
(530) 252-6624 TTY
(530) 252-6428 Fax

File Code: 3420

Date: August 28, 2002

To: District Ranger, Sierraville Ranger District,
Tahoe National Forest

Subject: Field review of application of marking guidelines for the Treasure Fire Recovery Project (FHP Report #NE02-06).

At the request of Bill Mazingo, I conducted a field evaluation of the Treasure Fire on August 28, 2002. Personnel from the Ranger District included Bill Mazingo, John Kennedy, Larry Ford, Jeff Leach and Dale Phelps. The objective of my visit was to examine several trees to determine if the marking guidelines were applied correctly.

Background Information

The fire started in the area on September 10, 2001. The project area is located approximately 2 miles southeast of Sierraville, just south of the Canyon Ranch area. The proposed action covers about 200 acres of the fire area south of Highway 89 and Cold Stream (see attached map). The project area is entirely within the SNFPA General Forest land allocation and partially within an Urban Wildland Intermix Defense Zone and Threat Zone. It also lies within the Tahoe National Forest LMP Henness Pass Management Area. The vegetation was mostly comprised of the white fir – pine series with some red fir at the higher elevations. The major conifer species include sugar pine, ponderosa pine, Jeffrey pine with lesser amounts of white fir, red fir and incense cedar. Shrub vegetation included greenleaf mazanita, snowbrush and mountain whitethorn.

The marking guidelines used for the Treasure Fire included 3 criteria (Table 1). The complete guidelines are attached to this document.

Table 1. Criteria for leave trees.

Tree Species	Tree DBH	Live Crown	Cambium (# of dead samples, rating 0-4)	Insect Activity (all species)
PP, JP, WF, IC	<20"	>35%	<2	>1/3 circumference
PP, JP, WF, IC	>20	>35%	<3	frass and boring dust,
SP	All sizes	>35%	<3	>10 pitch tubes

Field Observations

I examined several trees to determined if: 1) the trees had been evaluated correctly using the criteria in Table 1 and 2) the trees were appropriately marked (painted for leave trees) based on their evaluation. Most of the trees were evaluated and marked correctly. Many trees that were marked for leave because they did not meet the crown criteria were not sampled for cambium damage. This resulted in a more conservative application of the marking guidelines. I sampled the cambium on some of these trees that did not meet the crown criteria and found extensive enough cambium damage to indicate mortality.

You should expect additional mortality in trees with this type of fire damage in the next few years. It is not uncommon and is actually more common for trees with cambium damage alone (ie. no insects and/or crown kill) to take several years for the foliage to fade. I have observed several trees following wildfires and prescribed fires and it appears that on some trees it can take up to three years for crowns to fade if they have experienced enough cambium kill. The delayed crown fade is the result of the phloem being killed whereas the xylem (water transport layer) typically isn't damage and is still functioning. This results in continued water transport from the roots up, however, the inability of the phloem to conduct food products from the crown to the roots causes slow starvation and eventual crown fade. Based on tree physiology I would expect larger DBH trees to take longer for the foliage to fade and other circumstances come into play as well, such as soil moisture or lack of. Mortality that occurs up to about five years post-fire can typically be attributed to the initial fire injuries and/or insects.

Conclusions

Many of the trees within the area proposed for tree removal had complete crown kill (64% of the project area) greatly reducing the total number of trees requiring further evaluation. Overall, based on my observations, an accurate assessment has been made on an individual tree basis in the application of the criteria in the marking guidelines. As I mentioned above, a more conservative criteria was applied to some trees that were marked as leave trees. Some additional mortality should be expected in these leave trees based on my cambium sampling.

If you have any questions regarding this report or need additional assistance, please call any of the FHP staff at 530-257-2151.

/s/ *Sheri Lee Smith*

Sheri Lee Smith
Supervisory Entomologist
Forest Health Protection
NE CA Shared Service Area